I Claim:

1. An inertial brake actuator for a towed vehicle having a floor and a braking system actuated by a brake pedal comprising:

a. a base comprising a top side and a bottom side;

b. a weight comprising a means for contacting the brake pedal, a top and a bottom, said bottom of said weight being slidably mounted to the base along a line of travel between a forward position and a rearward position, wherein the means for contacting the brake pedal are configured to actuate the brake pedal responsive to the deceleration of the towed vehicle and wherein the weight has sufficient mass to apply a braking force to the brake pedal during deceleration of the towed vehicle;

c. sliding means between the base and the weight wherein the sliding means enforce said line of travel between said forward position and said rearward position.

2. The inertial brake actuator of claim 1 further comprising means for attaching said weight to said brake pedal.

3. The inertial brake actuator of claim 1 wherein said sliding means are configured between said base top side and said weight bottom.

4. The inertial brake actuator of claim 1 wherein the weight comprises a plurality of separable weight segments.

5. The inertial brake actuator of claim 1 wherein said base further comprises means for constraining motion of the base relative to the motion of said towed vehicle while said towed vehicle is being towed.

6. The inertial brake actuator of claim 1 further comprising means for moderating the motion of the weight along said line of travel.

7. The inertial brake actuator of claim 6 wherein said weight has sufficient mass to apply a braking force of up to 30 lb.

8. The inertial brake actuator of claim 6 wherein said weight has sufficient mass to apply a braking force of up to 35 lb.

9. An inertial brake actuator for a towed vehicle having a floor and a vacuum-based power assisted braking system actuated by a brake pedal comprising:

a. a base comprising a top side and a bottom side;

b. a weight comprising a means for contacting the brake pedal, a top and a bottom, slidably mounted to the base along a line of travel between a forward position and a rearward position, wherein the means for contacting the brake pedal are configured to actuate the brake pedal responsive to the deceleration of the towed vehicle and wherein the weight has sufficient mass to apply a braking force to the brake pedal during deceleration of the towed vehicle;

c. sliding means between the base and the weight wherein the sliding means enforce said line of travel between said forward position and said rearward position;

d. an auxiliary vacuum source connectable to the towed vehicle braking system to augment the actuation of the towed vehicle braking system.

10. The inertial brake actuator of claim 9 further comprising means for attaching the brake pedal to the weight.

11. The inertial brake actuator of claim 9 wherein the sliding means are configured between the base top side and the weight bottom.

12. The inertial brake actuator of claim 9 wherein the weight comprises a plurality of separable weight segments.

13. The inertial brake actuator of claim 9 wherein said base further comprises means for constraining motion of the base relative to the motion of said towed vehicle while said towed vehicle is being towed.

14. The inertial brake actuator of claim 9 further comprising means for moderating the motion of the weight along said line of travel.

15. The inertial brake actuator of claim 14 wherein said weight has sufficient mass to apply a braking force of up to 30 lb.

16. The inertial brake actuator of claim 14 wherein said weight has sufficient mass to apply a braking force of up to 35 lb.

17. The inertial brake actuator of claim 9 further comprising means for moderating the motion of the weight along said line of travel, and wherein said base further comprises means for constraining motion of the base relative to the motion of said towed vehicle while said towed vehicle is being towed.

18. The inertial brake actuator of claim 9 wherein the auxiliary vacuum source comprises a vacuum pump.

19. The inertial brake actuator of claim 17 wherein said vacuum pump is operated electrically.

20. The inertial brake actuator of claim 19 wherein said vacuum pump is connected to a vacuum switch.